



IFW

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Bauman et al. )  
Serial No. 10/773,731 ) Group Art Unit: 2643  
Filed: February 5, 2004 ) Confirmation No. 8615  
For: HEARING AID SYSTEM )

**INTERVIEW SUMMARY AND SUBMISSION UNDER 37 CFR §1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This submission is provided subsequent to the Examiner Interview on November 2, 2006 and also includes additional secondary consideration evidence.

Applicants thank the Examiner for the interview and the opportunity to discuss the prior art. With regard to the prior art, we asserted that a prima facie case of obviousness was not made out by the Examiner's Office Action of October 19, 2006. In particular, we noted that the Examiner's attempt to combine Feeley with Shennib does not make out a prima facie case of obviousness. While Feeley does teach a BTE and a receiver in the ear, Feeley uses a mold (which is cast to (e.g., the shell mold) or conforms to (e.g., the foam "universal" embodiment) a user's ear canal) to encase the speaker.

Shennib does not have a BTE component or a connector (because it is a CIC device). However, the Examiner indicated in the Office action that she believed the insertion loss teachings of Shennib were relevant to the present claims. During the interview, we noted that Shennib, in all cases, generates more than 3 dB of insertion loss (it is a bulky device), and then uses an algorithm to attempt to correct for the already generated insertion loss. By contrast, the Applicant's claim precludes such generation in the first place. Thus, Shennib is not applicable.

The Examiner also noted PCT publication WO 00/01196 to Taenzer as providing potentially relevant teachings with regard to their third described embodiment (which places a speaker in the ear). However, Taenzer in all cases requires active equalization to produce a high quality sound and more particularly, a flat frequency response. This active equalization is desirable from an audiophile perspective (e.g., for high fidelity music playback or high quality voice playback).

Indeed, the third embodiment includes in all cases a connector 2520 for provision of a source (the speaker driver 2514 depends from one end of the “small, comfortable earhook” 2512, and the connector 2520 depends from the other end). This embodiment is thus directed to communications equipment (e.g., secret service type devices) or high fidelity earphones (e.g., for music playback) that corrects (via active equalization) for the fact that the sound is being delivered inside the ear, and thus the sound will not be shaped by the effects of the ear bowl and pinna.

By contrast, the Applicant’s invention is a hearing aid and includes a BTE (having hearing aid amplification in accordance with hearing loss programming). The Taenzer ear hook does not have such components (it is not a hearing aid), but instead requires a separate source connected to the ear hook by connector 2520. The active equalization aspect of Taenzer (which are related to its use of the connector for communications equipment or high fidelity earphones) is inapposite to the hearing loss programming and amplification recited in the presently presented claims.

Finally, we discussed the substantial evidence of secondary consideration, which should rebut the asserted or another potential prima facie case of obviousness. Excerpts from the Exhibits were emphasized, which show Vivatone’s commercial success, copying by large competitors and laudatory statements by those competitors (which indicate that these aspects are highly desirable and innovative).

One of those competitors, Oticon, was recently selected as an International CES Best of Innovations 2007 Design and Engineering Award winner for its Delta product (which, as previously discussed, is a copy of the Applicant’s claimed invention). Exhibit 1, attached hereto, is a November 8 PRNewswire report, which characterizes the Delta as being a “new category.” The report states, “Its revolutionary design is made possible by

placing its receiver into the ear canal at the end of a thin, transparent sound wire.” This additional evidence further showcases the claimed configuration as “revolutionary” and emphasizes that the marketplace views the configuration as being new. Thus, this additional secondary consideration evidence (from yet another third party) weighs strongly in favor of patentability over the asserted or other prima facie case of obviousness. *Indeed, the significance of the Applicant’s claimed invention (in this case, the Oticon Delta copy) being awarded as one of the best innovations of 2007 cannot be overstated vis a vis its evidential value to show secondary considerations of nonobviousness.*

Further, the marketplace continues to copy the claimed design. While we previously submitted evidence of copying and laudatory statements by three primary competitors (Oticon, Hansaton and Siemens), *a fourth competitor, Interton Horgerate, GmbH, recently announced a new RITE (Receiver in the Ear) product, called Shape. This continuing, widespread copying is threatening Vivatone’s market share, and yet, each of the competitors recognizes that the claimed configuration is innovative.*

Exhibit 2 illustrates the new Interton Shape product alongside the Oticon Delta, the Hansaton Free, the Siemens Centra Active, and our own Vivatone hearing aid. Vivatone’s claimed configuration is being copied over and over again by major competitors. Like the others, the Interton Shape includes the BTE component with hearing aid electronics, a receiver in the ear in an open ear fitting, and a thin wire connecting the open ear receiver to the rest of the electronics in the BTE.

Reference to Exhibits 3-5 provides advertising literature for Interton’s Shape hearing aid (just as the previously submitted Exhibits showed such literature for Oticon, Hansaton, and Siemens).

Referring to Exhibit 3, the advertisement includes on its front page a large heading “**You will hear the difference**”. Page 2 does the same, with an image of the product and images of a coat hanger turning into a cymbal. Page 3 goes on to indicate that the Shape is “**A new dimension in hearing comfort**”. Page 4 **OVERTLY** touts the configuration by stating:

## **The secret of Shape – One solution, two units**

*With Shape, INTERTON is the first German company to place the receiver (speaker) in the ear canal while the sound processor is worn behind the ear. The result: a highly effective hearing system that provides a much richer sound experience.*

*The speaker is positioned in the ear canal. The speaker is positioned in the ear canal, while the sound processor sits behind the ear. The units are connected by an invisible tube. By placing the speaker in the ear canal, it is closer to the drum than traditional hearing aids. This unique configuration makes excellent sound quality and cosmetic discretion possible.*

*Shape – get all the advantages of in-the-ear solution (ITE's) and behind-the-ear solution (BTE's). Because all advantages are combined, Shape offers many benefits. If you are an experienced hearing aid wearer, you are familiar with the advantages and disadvantages of different hearing aids.*

*With Shape, there are no compromises – the best of both types of hearing systems all in one device.*

Page 5 goes on to describe the open fitting:

**You will hear the difference – *the whole world of sound***

**You will feel the difference – *a new quality of life***

**Comfort and sound quality – *the speaker is held in the ear by a soft dome...***

**Open for better perception – *Since the ear is not plugged, your voice won't sound odd to you. The sounds of chewing and swallowing won't overwhelm your sense of hearing...***

**Enjoy the difference!**

Pages 8 and 9 show an image of “**Shape in use**” (as being virtually invisible) and detail the “**Advantages of Shape at a glance**”:

**Almost invisible** – *the transparent tube, together with the very small and inconspicuous housing, meets the highest aesthetic and discretion demands.*

**Superior sound quality** – *enjoy speech, music and the sounds of nature again.*

**A high level of wearing comfort** – *your ear is not plugged. Listening feels free and natural. The dome is soft and comfortable.*

**Minimization of feedback** – *with Shape’s unique configuration unpleasant whistling is a thing of the past.*

**You will hear the difference**

Finally, page 10 shows the Shape configuration, which describes the interrelationship between the BTE, the tube and the external receiver unit.

Referring now to Exhibit 4, the front cover begins with a heading “**The best of both worlds...Shape**”. Page 2 shows an image of a BTE combining with a CIC to result in **SHAPE**. Page 3 describes the benefits of Shape:

**A new dimension in hearing comfort – Shape**

**The best of both worlds** – *Shape has an external receiver which is located directly in the auditory canal. Shape therefore combines the advantages of smaller CIC hearing aid solutions with the high level of wearing comfort of open mini BTEs to form an efficient and comfortable product innovation.*

***Almost invisible – Shape is an extremely small and light weight hearing aid system. Due to its broad fitting range, Shape achieves the highest degree of speech understanding and hearing comfort for a greater part of your customer base.***

***One solution, two units – Shape’s receiver is placed in the auditory canal, providing the sound quality of a CIC. However, the digital signal processor and directional microphone system are positioned behind the ear – eliminating feedback and allowing for unprecedented level of discretion. There is no need to compromise one for the other – Shape offers the best of both worlds.***

***INTERTON is the first German company to offer you, in the form of Shape, a combination of excellent acoustic quality, open care, discretion, wearing comfort and durability.***

**Your customers will appreciate it.**

Page 4 opens with “The benefits to you – advantages for as far as the eye can see” and “Shape provides you with an efficient solution – all the advantages of an open BTE and a CIC are combined without compromise.” Page 4 goes on to highlight the advantages of the BTE (*open fitting, high degree of comfort, cosmetically attractive, etc.*) as well as some disadvantages (such as *loss of acoustic quality through thin tube*). Page 4 also lists advantages of the CIC (*excellent acoustic quality, invisible*) as well as disadvantages (*Occlusion, less amplification, limited power, Expenditure in terms of time due to manufacturing of the shell, etc.*).

Page 5 lists the advantages of Shape, with no disadvantages. With regard to the external receiver unit, these include:

- ***A broad fitting range***

- *Extremely high performance in the high frequencies (important for understanding speech)*
- *Optimum utilization of the residual volume of the auditory canal*
- *No thin tube – a cable instead (no loss in the high frequencies and no stationary wave resonances)*
- *No mechanical feedback (the result: excellent acoustic quality and improved understanding of speech)*
- *Open fitting*
- *Silicone parachute sits comfortably in the ear*

With regard to the **cosmetic appearance and comfort**, benefits include:

- **Cosmetically attractive**
- **Light as a feather and almost invisible**
- **High degree of comfort**
- **Easy to handle, care for and operate**

Page 6 reiterates:

***Your customers will feel the difference – ... Shape is almost invisible and the ideal solution for customers who attach importance to an aesthetic appearance. Due to the open solution, former ITE users perceive their own voice much more naturally and benefit from increased comfort and an overall markedly improved quality of life.***

Referring now to the introduction to Interton's technical datasheet at Exhibit 5, the qualities of the claimed configurations are summarized in part by:

***Combining the advantages of BTE and ITE instruments, Shape brings the best wearing and listening comfort of both worlds to the customer. By having the***

*receiver placed in the ear canal, it delivers excellent sound quality, a broad fitting range, and more gain. Shape is an occlusion free and invisible hearing solution with an attractive wearing style... No ear mould or shell is needed...*

*Shape is the most attractive, occlusion free and robust solution with the best sound quality and largest fitting range possible for open fittings. Altogether you will find that Shape is the direct route to better hearing. You will hear the difference.*

The above not only copies the claimed configuration, but lauds the configuration as innovative. **Interton overtly details the problems and disadvantages of prior BTE and CIC devices and provides detail on how the RITE open fitting solution solves all of the prior problems and disadvantages.** This is EXTREMELY persuasive evidence of non-obviousness, and should be sufficient to rebut a prima facie case of obviousness with regard to the pending claims.

Reconsideration and allowance of all of the claims is requested.

If there are any charges with respect to this submission or otherwise, please charge them to Deposit Account 06-1130, maintained by the Applicant's attorneys.

Respectfully submitted,

CANTOR COLBURN LLP

By: 

Michael A. Cantor

Registration No. 31,152

CANTOR COLBURN LLP

55 Griffin Road South

Bloomfield, CT 06002

Telephone (860) 286-2929

Facsimile (860) 286-0115

Customer No. 23413

Dated: November 28, 2006